Multiple Sclerosis: Early recognition of symptoms

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Multiple Sclerosis GP Update Workshop
12.30-3pm 25 June 2010
Classroom 2 Second Floor
Weston Education Centre
Learning Objectives

- To recognise the early signs & symptoms of multiple sclerosis
- To understand how the diagnosis of multiple sclerosis is made
- Highlight the NICE guidelines for the management of MS, NSF LTC & 18-week Commissioning Pathway for MS
- Recognise which early features may indicate a poorer prognosis
Introduction

Incidence 3 - 6 / 100 000
Prevalence: 1 in 800
Approx 85 000 people affected in UK (On average 2 patients for every GP)
Women > Men (2-3:1)
Typically presents between the ages of 20 – 50

Aetiology
? Autoimmune disease
? Chronic Infection
? Neurodegenerative disease
? Disorder of circulation

Robert Carswell (1838)
Case 1

31 year old Caucasian lady

- No PMH. No recent foreign travel or vaccinations
- Presents with reduced vision in her right eye
- HPC: 1 week ago developed *discomfort* around eye worsened by eye movement followed shortly after by blurring of *central vision* and *colours* looking “washed out”
Examination findings
(abnormalities confined to right eye)

- Reduced visual acuity to 6/36 with reduced colour vision
- Central scotoma
- Relative afferent pupillary defect
- Swollen optic disc
Case 1

• Diagnosis: **Optic Neuritis**

• Management: Conservative

• Vision gradually recover to normal over several weeks
Case 1

Peter MacKarell (1933 – 1988)
Case 2

30 year Caucasian lady

• Difficulty walking which gradually progressing over a week with stiffness & weakness in her legs > arms with paraesthesia and urinary urgency
• A “funny feeling” down her body on bending the neck forwards

Examination

• Pyramidal weakness (UL weaker extensors, LL weaker flexors) with brisk reflexes and extensor plantar responses.
• No clear sensory level. Reduced vibration sense distally
Case 2

Sagittal T2-w MRI of the cervical spine and axial T2-w MRI of brain
Case 2

• Diagnosis:
  • Transverse myelitis
  • Lhermitte’s sign / symptom

“...the sensations are uncomfortable but not really painful, and closely resemble those produced by faradic current. They never occur spontaneously... but occur exclusively with movements accompanied by forward flexion of the head .... These sensations are always rapid and brief, because by an instinctive reflex, the patient corrects the position .... “

Jean Lhermitte
(1877 – 1959)
Case 3

25 year old Caucasian lady

- Admitted with diplopia
- Noticed altered sensation down right side of body for past 2-weeks without weakness

Examination findings
- Left lateral rectus palsy with subjective sensory symptoms on right side
Case 3

Sagittal & axial T2-weighted MRI
Case 3

- Diagnosis: Inflammatory brainstem episode
- Management: Treated with steroids and symptoms fully recovered
Case 4

- 19 year old Caucasian man

- Presents to A&E with progressive left hemiparesis over the past 3 weeks

- Episode 6 months early when he describes a numb tongue and dysarthria lasting 1-2 weeks
Case 4

Case 4

- Diagnosis: Demyelination (*psudotumour*)

- Management: Conservative. Recovered to walking almost normally in a few days
Early recognition
Symptoms

- Typically presentation (80%) is due to an episode of inflammation / demyelination in CNS

**Clinically isolated syndrome (CIS) suggestive of MS**
[Spinal cord (46%) > Optic Nerves (21%) > Brainstem (10%)]

- Gradual onset of symptoms (over hours / days)
- Symptoms plateau (over days / weeks)
- Complete / partial remission (over weeks / months)

- Less commonly patients present having gradually developed symptoms over months without preceding relapses (Primary Progressive MS)
Early recognition
Symptoms

Any part of the brain, spine or the optic nerves can be affected

– Double vision
– Reversible blindness
– Pins & needles
– Numbness
– Limb weakness
– Balance problems
– Tremor

– Bladder weakness
– Sexual problems
– Slurred speech
– Pain
– Memory problems
– Fatigue / tiredness
– Depression
Early recognition
Disease Course

- Relapsing-remitting multiple sclerosis
- Benign multiple sclerosis
- Secondary progressive multiple sclerosis
- Primary progressive multiple sclerosis
Early recognition
Diagnostic Criteria

Diagnostic Criteria for Multiple Sclerosis:
2005 Revisions to the “McDonald Criteria”

Chris H. Polman, MD, PhD,1 Stephen C. Reingold, PhD,2 Gilles Edan, MD,3 Massimo Filippi, MD,4
Hans-Peter Hartung, MD,5 Ludwig Kappos, MD,6 Fred D. Lublin, MD,7 LuAnne M. Metz, MD,8
Henry F. McFarland, MD,9 Paul W. O’Connor, MD,10 Magnhild Sandberg-Wollheim, MD,11
Alan J. Thompson, MD,12 Brian G. Weinshenker, MD,13 and Jerry S. Wolinsky, MD14

New diagnostic criteria for multiple sclerosis integrating magnetic resonance image assessment with clinical and other paraclinical methods were introduced in 2001. The “McDonald Criteria” have been extensively assessed and used since 2001. New evidence and consensus now strengthen the role of these criteria in the multiple sclerosis diagnostic workup to demonstrate dissemination of lesions in time, to clarify the use of spinal cord lesions, and to simplify diagnosis of primary progressive disease. The 2005 Revisions to the McDonald Diagnostic Criteria for MS should simplify and speed diagnosis, whereas maintaining adequate sensitivity and specificity.


• The diagnosis of (relapsing-remitting) MS requires evidence of dissemination of disease in time and space

• Current diagnostic criteria are the revised McDonald criteria (2005) – enable dissemination of disease in time and space to be identified both clinically and using paraclinical tests
Multiple Sclerosis is NOT an radiological diagnosis
Early recognition
Investigation: Other tests that *may* be needed

Blood tests

Lumbar Puncture

Visual Evoked Potentials
Diagnosis

- Improved training in primary care to help recognise symptoms and refer to appropriate service
- Prompt referral to a specialist Neurology service
- Appointment within 6 weeks of referral
- Rapid investigation when necessary (<6 weeks)
- Review by the same specialist who instigated the investigations to discuss the results
After diagnosis

• An appointment within 4 weeks to meet the doctor who made the diagnosis

• Access to a skilled nurse / support worker with knowledge of MS and counselling experience

• Written information about local & National MS support organisations, and local rehabilitation services

• Information (pack) about MS for the newly diagnosed

• An education programme to cover all aspects of MS (within 6 months of diagnosis)
18-week Commissioning Pathway

http://www.mstrust.org.uk/professionals/information/pathway.jsp
Who should you refer?

- Patients with symptoms suggestive of Multiple Sclerosis which are having a significant impact
- Patients who have become concerned they have MS who you do not feel sufficiently confident to reassure
- Patients who have had an MRI scan for whatever reason that has raised the possibility of MS

Remember to enquire about a FH of MS (present in approx 20%)
Why refer early?

- To give an **explanation** to worried patients about the cause of their symptoms and reassure those who do not have MS
- Enable patients to receive **support** and **information**
- Early assessment for suitability for **treatment**
  - To treat the current symptoms
  - To reduce the risk of future relapses
  - To reduce / prevent long-term disability
The Therapeutic Window for Treatment in MS

- Pre-clinical (RIS)
- Clinical Threshold
- Clinically Isolated Syndrome (CIS)
- First clinical event
- RR MS
- SP MS
- Total lesion load
- MRI Activity
- Number of Lesions
- McDonald MS
- Poser CDMS

- Clinically Isolated Syndrome (CIS)
- RR MS
- SP MS

- Number of Lesions
- Total lesion load
- MRI Activity
- Clinical Threshold
- Pre-clinical (RIS)
## Prognostic Indicators

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<thead>
<tr>
<th>Factor</th>
<th>Better prognosis</th>
<th>Worse prognosis</th>
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<tr>
<td>Age at onset</td>
<td>Younger</td>
<td>Older</td>
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<tr>
<td>Gender</td>
<td>Female</td>
<td>Male</td>
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<tr>
<td>Onset relapse type</td>
<td>Optic neuritis</td>
<td>Motor</td>
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<td></td>
<td>Sensory symptoms</td>
<td>Sphincter involvement</td>
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<tr>
<td>Relapse frequency</td>
<td>1–2 relapses in 5 years</td>
<td>3 or more in first five years</td>
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<td>Full recovery</td>
<td>Incomplete recovery</td>
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<td>Residual disability after relapse</td>
<td></td>
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<tr>
<td>First remission</td>
<td>Greater than 2 years</td>
<td>Less than 2 years</td>
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<td>Time to EDSS 4</td>
<td>Greater than 5 years</td>
<td>Less than 5 years</td>
</tr>
<tr>
<td>Lesions on first MR brain scan</td>
<td>1–3 lesions</td>
<td>10+ lesions</td>
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<tr>
<td>Increase in T2 lesion volume in first 5 years</td>
<td>&lt;1.0 cm³/year</td>
<td>Approx 3 cm³/year</td>
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From: Hutchinson M. Practical Neurology June 2009
Conclusions

• MS is a common cause of neurological disability in young adults

• Whilst multiple sclerosis is uncommon in general practice, GPs should be alert to its early symptoms

• Patients with suspected MS should be urgently referred to a neurologist

• Early treatment may be beneficial for some patients to prevent the accrual of disability
References


• The MS 18-week commissioning pathway (2008) http://www.mstrust.org.uk/professionals/information/pathway.jsp

• Multiple Sclerosis e-Learning Module, RCGP http://www.rcgp.org.uk/practising_as_a_gp/distance_learning/multiple_sclerosis/about_the_ms_module.aspx

• Primary Care Neurology Society http://www.p-cns.org.uk
Thank You